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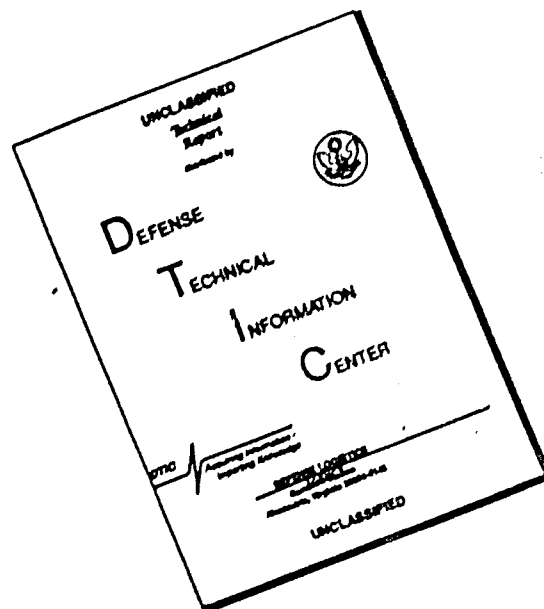
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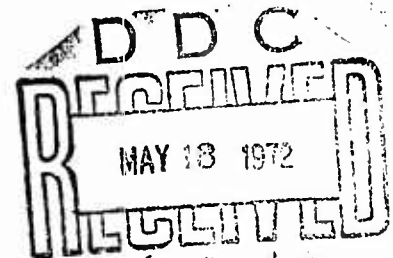
SUBJECT: Operational Reports - Lessons Learned, Headquarters 212th Avn Bn,  
223rd Avn Bn, 145th Avn Bn, 268th Avn Bn (U)

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1. Section 2 of reports, subject as above, are forwarded for review and evaluation in accordance with para 4b, AR 525-15.
2. The information contained in these reports is provided to insure that lessons learned during current operations are used to the benefit of future operations and may be adapted for use in developing training material.
3. Information of actions initiated as a result of your evaluation should be forwarded to the Assistant Chief of Staff for Force Development, ATTN: DAED-OTT, within 90 days of receipt of this letter.
4. As Section 1 of subject reports are not pertinent to the Lessons Learned program, they have been omitted.

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SUBJECT: Operational Report - Lessons Learned of the 212th Combat Aviation Battalion for the Period Ending 31 October 1971 RCS CSFOR-65 (R3) (U)

2. (C) Lessons Learned: Commander's Observation, Evaluations and Recommendations.

a. Typhoon Hester

(1) Observation: At 0900 hours on 22 October 1971, the 212th CAB received the first weather warning on Typhoon Hester. It became apparent through updated reports received during the day and early morning hours of 23 October that the typhoon would hit the coast of Republic of Vietnam between Chu Lai and DaNang. Although the maximum winds forecast for the DaNang area were not in excess of 40 knots, the decision was made to take all possible precautions in preparation for a major storm. Aircraft were moved into hangars when possible. Double tie downs, spoilers, and sandbags were used to protect aircraft for which there was no hangar space. When it became obvious that the weather was going to be much worse than that forecast, heavy trucks were obtained from the DaNang Support Command and employed around revetments to act as wind breakers. During this emplacement of vehicles, the winds were out of the NNE and it was estimated that the gusts were as high as 50 knots. At approximately 1700 hours on 23 October, the storm reached its peak. The winds had shifted to the SE and gusts were reported by DaNang Air Base as high as 90 knots. It is believed that with the wind from the SE and with Marble Mountain Army Airfield (MMAAF) being located on the beach, the gusts at MMAAF were probably 10-15 knots higher than those reported at DaNang Air Base. Most of the damage to aircraft occurred during this period. Winds started to subside around 1800 hours, but as late as 0001 hours 24 October were still at 20 knots with gusts to 30 knots. Aircraft remained in hangars or tied down in revetments. On the following morning, a first-light appraisal of damage revealed the following aircraft damaged:

<u>AIRCRAFT TYPE</u>	<u>NUMBER DAMAGED</u>	<u>TYPE DAMAGE</u>
CH-47	24	Skin & blade damage
UH-1H	2	Cowl Assembly dented
OH-58	1	Stablizer assembly bent
OV-1	1	Minor damage to rudders and tab

Almost all skin damage to the CH-47s resulted when the aircraft weathervaned and struck revetments. The damage to the UH-1Hs and OH-58 occurred when parts of a hangar roof blew off and pieces fell on the aircraft within the hangar. No O-1Gs suffered damage. Extensive damage also occurred to numerous 212th CAB buildings at MMAAF, several buildings being almost totally destroyed.

(2) Evaluation: In retrospect it would appear that the 212th CAB weathered Typhoon Hester better than expected during the storm. This was primarily due to the extensive preparations undertaken to protect aircraft during the early stages of the storm, despite weather forecasts which proved highly inaccurate in under estimation of wind speeds. At first light on 24 October work began to repair buildings and prepare aircraft for missions. By 0807 hours the first UH-1H from the 62d Corps Aviation Company was on a mission. At 1330

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hours the 212th CAB had 23 UH-1H, 1 AH-1G, 2 CH-58, 4 O-1G and 2 U-21 aircraft mission ready at MMAAF. By the end of the day the battalion had flown a total of 423 sorties carrying 88.6 tons of material and 395 passengers. Recovery was rapid with the exception of the two Assault Support Helicopter Companies. Due to the extensive exposure of the CH-47 rotor blades to the high winds, the decision was made to replace all blades with new ones. This time-consuming task delayed the recovery of CH-47 aircraft by several days.

### (3) Recommendations:

(a) Aircraft Protection (Evacuation): The problem involving evacuation of aircraft within Military Region 1 is availability of evacuation sites. Although U-21 and OV-1 aircraft can utilize sites in Thailand or Military Region 4, helicopters are limited to sites much closer because of their range. Moving the aircraft north would appear unwise; although maximum winds at Phu Bai were forecast for only 35 knots, the wind actually peaked at around 70 knots. In effect, helicopter evacuation is limited to points south and the Pleiku area. Additionally, since only about one-fourth of the aircraft of this battalion could be flown out to a secure site under instrument conditions, three-fourths would have to be evacuated two to four days before the typhoon and returned one or two days after the storm during periods of VFR weather. Thus a period of three to six days would be required each time a typhoon warning is received to effectively evacuate all the battalion's aircraft. Taking into account the frequency and unpredictability of typhoons or tropical storms, it can be seen that aircraft evacuation is not an effective solution for aircraft protection.

(b) Aircraft Protection (Hangars): Given reasonably sturdy hangars and sufficient heavy vehicles to block open areas of the hangars, is felt to be the most effective solution to the problem of securing aircraft. The hangars which best withstood winds of possibly as much as 100 knots were not completely enclosed but had an open side which was blocked with large, heavy vehicles. Apparently, having doors of hangars closed creates overpressures that cannot be withstood by buildings not especially engineered for high winds. Some airflow must be allowed or weak portions of the buildings, such as doors, will be forced through the hangar itself.

(c) Aircraft Protection (Revetments): All aircraft in revetments required immobilization to prevent shifting into revetment walls and minimize effects of airfoils and maximum protection across open portions of revetments. If sufficient heavy vehicles are available, they effectively block winds across open revetments, provide anchors to which aircraft may be tied and protect aircraft from windblown debris. A shortcoming during Typhoon Hester was the lack of sufficient ropes to secure CH-47 aircraft to the vehicles; as a consequence, when the wind shifted from the north to the east it struck the large surface of the aft pylon of the aircraft (all of which were facing north) and caused them to weathervane, streamlining into the wind. This caused extensive minor skin damage when the aircraft crashed into revetment walls or the vehicles parked near them.

(d) Aircraft Protection (Spoilers): Spoilers used to break wind flow over airfoils and control surfaces should be tied to the aircraft. There were numerous occasions of spoilers blown away by high winds. In addition, control

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5

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SUBJECT: Operational Report - Lessons Learned of the 212th Combat Aviation Battalion for the Period Ending 31 October 1971, RCS CSFOR-65 (R3) (U)

surfaces should be protected by gust locks; merely locking the controls at the cockpit allows stretching or breaking of control cables and possible destruction of the control surfaces themselves.

(e) Aircraft Protection (Blades): Double tie downs must be utilized on all rotary wing aircraft whether hangared or in revetments and must include tail rotor blades tied to vertical fins. CH-47 blades which cannot be removed prior to the storm, should have as many blades as possible tied down. Those CH-47 blades which cannot be removed should have double tiedowns, preferably with cargo restraining straps as these have tension devices to remove slack,

(f) Building Protection: Generally, the roofs of all buildings need additional reinforcement to withstand typhoon wind conditions. Ropes which are staked to the ground and across the roof of single story buildings afford excellent protection. The two story buildings which had been partitioned into rooms suffered little structural damage; however, those without cross bracing, proved to be very dangerous in high winds. Quonset huts appeared to withstand the high winds better than any other type of building.

(g) Personnel Protection: When outside during the storm, all personnel should be required to wear helmets and armored vests to protect themselves from flying debris. To protect personnel from high voltage electrical hazards, all commercial power should be turned off during storms. Personnel should seek shelter within the strongest buildings or bunkers available at Storm Condition One.

### (4) Command Action:

(a) A letter, this headquarters, dated 29 October 1971, subject: After Action Report on Typhoon Hester, was submitted to 11th Combat Aviation Group and included detailed recommendations for protection of personnel and equipment from storm damage.

(b) Follow-up coordination will be effected with both subordinate units and higher headquarters to adopt recommendations as appropriate.

### b. Personnel:

#### (1) Critical MOS Shortages (203d Assault Support Helicopter Company):

(a) Observation: The 203d Assault Support Helicopter Company is experiencing shortages of personnel in the following MOS; 67A1 (Doorgunners), 67U2F (CH-47 Crew Chief), 67W20 (Technical Inspector), 67Z50 (Aircraft Maintenance Supervisor), 71B20 (Clerk-Typist), 71H20 (Company Clerk) and 94B20 (Cook).

(b) Evaluation: 203d ASHC was recently reorganized into a non-divisional aviation unit which requires more independent operation thus requiring more critical MOSs to achieve and maintain a satisfactory mission posture.

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6

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SUBJECT: Operational Report - Lessons Learned of the 212th Combat Aviation Battalion for the Period Ending 31 October 1971, RCS CSFOR-65 (P)

(c) Recommendation: A more equitable distribution of personnel as units stand down.

(d) Command Action: Continue to advise higher headquarters on critical personnel status and redistribute the battalion personnel assets when possible.

(2) Critical MOS Shortages (62d Aviation Company (Corps):

(a) Observation: The 62d Corps Aviation Company is experiencing shortages of personnel in the following MOS: 67N2F (UH-1H Repairman), 67N40 (UH-1H Maintenance Supervisor), 71B20 (Clerk-Typist), 71P20/40 (Flight Operations Coordinator)

(b) Evaluation: Due to the variety of aircraft assigned and unit's mission of flying VIPs, it is essential that personnel critical to mission completion be maintained at or near authorized strength levels. In addition to present shortages even more serious shortages in the above MOS will occur within the next 60 days.

(c) Recommendation: A redistribution of 1st Aviation Brigade assets would alleviate the problem.

(d) Command Action: Continue to advise higher headquarters on unit personnel status and recommendations for alleviating the situation.

(3) Critical MOS Shortages (131st Military Intelligence Company (Aerial Surveillance)

(a) Observation: 131st Military Intelligence Company (Aerial Surveillance) is experiencing shortages of personnel in the following MOS: 26N20 (Surveillance Infrared Repairman), 41G20 (Surveillance Photographic Equipment Repairman), 67H20 (OV-1 Repairman), 67H40 (OV-1 Maintenance Supervisor), 67Z50 (Aircraft Maintenance Supervisor), 71B20 (Clerk-Typist), 71P20 (Flight Operations)

(b) Evaluation: Due to the priority of the unit's mission and complexity of aircraft and sensor equipment, it is essential that personnel critical to mission completion be maintained at or near authorized strength levels.

(c) Recommendations: That the high skill requirements of OV-1 units be given priority for reassignment of personnel from the pipeline and other in-country OV-1 units.

(d) Command Action: Continue to advise higher headquarters on unit personnel readiness which will effect mission and operational readiness and recommend solutions to alleviate the problem.

c. Intelligence: Aerial Observers

(1) Observation: The majority of aerial observers are untrained.

17  
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SUBJECT: Operational Report - Lessons Learned of the 212th Combat Aviation  
Battalion for the Period Ending 31 October 1971, RCS CSFOR-65 (R3) (U)

(2) Evaluation: Information supplied the 212th CAB, both from subordinate and supported units, indicate that in many instances aerial observers are not submitting timely, accurate intelligence on scheduled missions due to a lack of proper observer training. This is highly detrimental to units which support intelligence gathering operations and units which receive this intelligence.

(3) Recommendation:

(a) Individual observers should be provided by supported units on a semi-permanent basis. Constant changing of observers does not allow any single individual to obtain the requisite familiarity with his unit's area of operation or proper observer techniques.

(b) Briefing and debriefing of observers should be conducted at the supporting unit's location. This will insure timeliness in dissemination of information, as there will be no travel involved after missions are completed, as well as prompt departure of intelligence collecting flights. Use of available section voice communications negates the requirements for the observer's physical presence at the supported unit's location. Additionally, with this arrangement the pilot and the observer may both be debriefed at the same time.

(c) Observers should report for flights with proper equipment such as binoculars or hand-held cameras as this equipment is not always available within the aviation company assets.

(4) Command Action: Informal coordination with supported units has been conducted to implement the above recommendations.

d. Operations:

(1) Utilization of hand-held cameras.

(a) Observation: Hand-held cameras are more effective than wing mounted cameras in O-1G "Bird Dog" photo reconnaissance missions.

8

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Battalion for the Period Ending 31 October 1971, RCS CSFOR-65 (R3) (U)

(b) Evaluation: The large wing mounted camera has been difficult to use regularly on O-1G photo missions due to problems inherent in mounting/dismounting and operation while in flight. Another problem has been lack of qualified maintenance support for the camera at aviation company level. Hand-held cameras of the 35mm type equipped with the appropriate lens have been used quite successfully for closeups of specified areas in the past. When large area coverage or mosaic type photography are desired, other type aircraft (e.g. OV-1) should be utilized.

(c) Recommendation: Cameras of the 35mm type should be utilized for photo reconnaissance missions on light fixed wing aircraft and other more sophisticated platforms used when mission requirements so dictate.

(d) Command Action: Subordinate units have been advised to refer requests for photo missions utilizing the wing mounted cameras to this headquarters for appraisal and coordination.

(2) Utilization of ammonia capsules:

(a) Observation: Recently a wounded pilot of the 220th RAC almost passed out from shock and loss of blood as he was landing. He was able to use a broken ammonia capsule to regain sufficient alertness to maintain control and enable him to make a safe landing.

(b) Evaluation: The ammonia capsule is a cheap and effective means for an injured pilot to regain mental alertness during critical periods. They are easily available and have no harmful effects.

(c) Recommendation: All tactical aircraft in a combat zone be equipped with at least two ammonia capsules within the pilot's reach.

(d) Command Action: This headquarters has instructed subordinate units to place ammonia capsules within reach of all aircraft pilots.

(e) Organization: None

(f) Training: None

(g) Logistical: None

(h) Communication: None

(i) Material: Carburetor Air Filter

(1) Observation: The new carburetor air filter system on the O-1G has a suspected deficiency.

9

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(2) Evaluation: The 220th Aviation Company has had two recent incidents involving the four-piece felt gasket which seals the disposable filter housing to the mouth of the carburetor air box on the engine of the O-1G aircraft. On both occasions one of the four pieces of gasket slipped from its position, traveled through the carburetor air box and jammed the carburetor's butterfly valve. The pilot was able to advance the throttle but could not retard it as a result of this malfunction. It is suspected that the solvent used in daily cleaning of the aircraft engine deteriorates the glue used to fasten the gasket to the filter housing.


(3) Recommendations: Engine cleaning should be done with the filter removed and replaced with a large clean rag and efforts should be made to develop a one-piece gasket.

(4) Command Action:

(a) Cleaning of O-1G engines is being done with filter removed and replaced by a clean rag.

(b) Equipment Improvement Report Number V04376 has been submitted through appropriate channels.

(j) Other: None

  
JOHN A. LOVETT  
Lieutenant Colonel, Infantry  
Commanding

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Aviation Battalion Period Ending 31 October 1971. RCS CSFOR-65 (R3) (U)

2. Section 2. Lessons Learned: Commander's Observation, Evaluation and  
Recommendation.

a. (C) Personnel:

(1) Newly arrived personnel in country.

(a) OBSERVATION: Newly arrived personnel must be incorporated into  
the unit as soon as possible.

(b) EVALUATION: Due to the everyday rotation of new personnel, a  
method of incorporating personnel into the unit without disruption of the daily  
work routine is a necessity.

(c) RECOMMENDATION: That a positive means of welcoming and processing  
all newly arrived personnel be instigated and that the "Open Door" policy be  
utilized at all times.

(d) COMMAND ACTION: This unit instigated a program to welcome  
each new arrival in every way possible and to assist in settling him into the  
company. In addition a personal letter of welcome is sent to his parents or  
wife.

(2) The shortage of trained non-aviation personnel in an Aviation  
Company.

(a) OBSERVATION: A shortage of trained non-aviation personnel exists  
within the Battalion.

(b) EVALUATION: The shortage of trained non-aviation enlisted personnel  
with common specialists MOS's requires that aviation related personnel be assigned  
out of their MOS's to occupy positions in which they have little or no training.  
Every company requires trained personnel working in their respective military  
occupational skill to allow the company to operate efficiently. The Battalion  
has been short trained Supply Sergeants and Motor Sergeants since April 1971.  
There is only one school trained mechanic in the motor pool and he is acting as  
Motor Sergeant. There are only four cooks (E-4 and below) of an authorized eight.  
One Flight Operations Specialist and one pathfinder are acting as company clerks.

(c) RECOMMENDATION: That more trained non-aviation personnel be  
assigned to Aviation companies to fill required positions in their respective  
Military Occupational Skills.

(d) COMMAND ACTION: This unit has been forced to take the best people  
available out of their assigned MOS and place them in these positions.

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Operational Report - Lessons Learned, Headquarters 223rd Combat Aviation Battalion Period Ending 31 October 1971. RCS CSFOR-65 (R3) (U)

(3) Lack of Qualified Clerks.

(a) OBSERVATION: Due to lack of qualified clerks in the battalion, the companies were required to utilize personnel with MOS's unrelated to 71B and 71H.

(b) EVALUATION: Due to workload and operational requirements at company level, personnel being utilized as company clerks received limited instruction in the performance of their duties. As a result, correspondence was being delayed due to being returned to companies for preparation in accordance with the governing regulation. Personnel of Battalion S-1 conducted informal classes twice monthly. Attendance was voluntary and the classes lasted approximately 60 to 90 minutes. At each session, a particular area (i.e., correspondence, efficiency reports, etc.) was covered and then the clerks were allowed to ask any questions regarding their duties. In some cases, persons from the Consolidated Personnel Section attended these classes and covered their particular specialty. Within a week, a marked improvement was noted in the particular area covered.

(c) RECOMMENDATION: That each staff section conduct informal classes in their particular area(s) to accomplish this battalion's mission more efficiently.

(d) COMMAND ACTION: The Battalion is organizing such classes in hope that it will increase the efficiency of the personnel assigned in the units.

b. (U) Intelligence:

(1) The use of a company Intelligence Officer and distribution of significant information.

(a) OBSERVATION: Reports of enemy activity and other intelligence information play an important role in the operation of a Combat Aviation Battalion.

(b) EVALUATION: Proper use of information distributed by the Company Intelligence Officer has proven helpful in the employment of an assault helicopter company. It assists in determining the most effective tactics to be employed and informs aviators of areas of intense enemy activity. It has proven to be a major factor in reducing the number of hits taken by aircraft from enemy ground fire, and has proven to be a great assistance during briefings for company CA's.

(c) RECOMMENDATION: That all Assault Helicopter Companies insure maximum use of Company Intelligence Officers and that updated intelligence information be distributed to personnel daily on a situation map and weekly at briefings.

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(d) COMMAND ACTION: This unit has adopted the policy of distributing pertinent intelligence information weekly at Officer's Call and maintaining situation map updated daily.

(2) The accuracy of typhoon warnings.

(a) OBSERVATION: Typhoon Hester exceeded the predicted magnitude, conditions, duration, and wind velocities.

(b) EVALUATION: Weather predictions for Typhoon Hester were extremely inaccurate and resulted in insufficient before-storm preparation at unit level. The maximum predicted conditions were well exceeded and resulted in forcing the unit to provide more protection to the aircraft during the typhoon itself rather than prior to the typhoon. This compounded the difficulty of the task and resulted in a safety hazard to those performing the task.

(c) RECOMMENDATION: That typhoon warnings require more preparation to assure accuracy of forecast conditions and that such warnings be forwarded to the units as soon as possible. Also, that units take maximum precautions for any predicted typhoon.

(d) COMMAND ACTION: This unit will follow the policy of taking maximum precautions in the future for all predicted typhoons.

c. (C) Operations:

(1) Daily aviation missions assigned to the units.

(a) OBSERVATION: Aviation missions for the next day are continuously being received by Operations after 2130 hours.

(b) EVALUATION: The late arrivals of missions does not provide Operations with sufficient time to effectively schedule aircraft and personnel and does not allow the unit adequate time to properly brief crews prior to their missions.

(c) RECOMMENDATION: That an effort be made on the part of higher units to speed the passage of missions. This would enable the unit receiving the missions to give an adequate briefing prior to the next days flights. It could be accomplished without noticeably limiting the flexibility of the supported or supporting units.

(d) COMMAND ACTION: Every effort is made to anticipate the succeeding days missions and aircraft and crews are scheduled accordingly, with changes posted as necessary when the actual missions are received.

(2) Pre-flight inspections during the hours of darkness

(a) OBSERVATION: The PZ times for some missions are so early that they require pre-flights to be performed during the hours of darkness.

14

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(b) EVALUATION: Early PZ times require that the aircraft be pre-flighted in the dark. This reduces the effectiveness of a good pre-flight inspection. It reduces the ability to discover deficiencies which might exist on the aircraft resulting in the deficiency going undetected and uncorrected prior to takeoff.

(c) RECOMMENDATION: That PZ times be changed to a later time, when possible, to allow for pre-flights in the daylight. This is especially recommended during the rainy season and would also decrease the possibility of weather delays which occur during the early morning hours.

(d) COMMAND ACTION: Every effort is made to insure that pre-flights are as thorough as possible regardless of the climate or solar conditions.

(3) Method of troop movement during combat field extractions.

(a) OBSERVATION: Many troop extractions in our present area of operations involve extreme distances between the pick-up zone and the landing-zone.

(b) EVALUATION: The troop movement, in this situation, requires a great increase in time between extractions of elements. This leaves the ground units undermanned and vulnerable to enemy attack for long periods of time.

(c) RECOMMENDATION: That all elements be extracted to the nearest secure base and, upon completion of this phase, that the troops then be moved to the distant destination by the most efficient means, such as CH-47 or trucks where feasible.

(d) COMMAND ACTION: Ground Commanders are consistently briefed during Air Mission Commander briefings and every effort has been made to get Ground Commanders to implement this policy.

(4) Supporting of ARVN Units in the Field.

(a) OBSERVATION: In supporting the ARVN Units the language barrier has become steadily worse with the reduction of US Troops and advisors.

(b) EVALUATION: Without proper communication with the ground personnel, the enemy situations cannot be ascertained, nor can the direction of artillery firing, if any, be determined. This lack of communication also creates problems as which load is to be moved where and once there, what are the winds and where is the load to be positioned. As a result, blade time is wasted in the attempt to make contact with the ground personnel at both PZ and LZ so as to gain the aforementioned information.

(c) RECOMMENDATION: That the ARVN Units have either US Advisors or ARVN Interpreters at the PZ's and LZ's or have either one at the PZ or LZ with

15

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(c) communications to the other.

(d) COMMAND ACTION: The recommendation has been forwarded and some results have been noted,

(5) Prevention of damage to aircraft during typhoons and high winds due to deficient tie-down.

(a) OBSERVATION: Typhoon Hester damaged aircraft which were properly tied down prior to the storm.

(b) EVALUATION: Even though aircraft were properly tied down before the typhoon struck, aircraft received damage to #4 drive shafts due to main rotor strikes because tie-downs either broke, stretched or came loose during the storm.

(c) RECOMMENDATION: That all aircraft tie-downs be checked hourly during the typhoon to replace and re-tie deficient tie-downs. Also, a better type of tie-down should be investigated for the AH-1G because of the degree to which the main rotor blades flex during high winds.

(d) COMMAND ACTION: The policy of checking tie-downs hourly was investigated in this unit during Typhoon Hester and will be adhered to during future typhoons and high wind conditions.

(6) The shortage of aircraft publications.

(a) OBSERVATION: There is an acute lack of Operators Manuals and Pilot's Checklists.

(b) EVALUATION: Upon graduation from flight school, all individuals are required to turn in their Operators Manuals. It is extremely difficult for units to obtain aircraft publications through appropriate distribution channels resulting in a serious shortage.

(c) RECOMMENDATION: That, upon graduation from an aviation course, each individual be allowed to keep the aircraft Operators Manual.

(d) COMMAND ACTION: Aircraft Operators Manual and Pilot's Checklists are on order and are shared among several pilots pending receipt of this order.

(7) Unit Movement

(a) OBSERVATION: The units of this Battalion have been involved in several moves in the past year. In some cases the priority of the mission dictated rapid displacement, other instances allowed more time for coordination.

(b) EVALUATION: The ability to relocate and assume missions in a short

16

**CONFIDENTIAL**

SUBJECT: Operational Report - Lessons Learned, Headquarters 223rd Combat Aviation Battalion Period Ending 31 October 1971. RCS CSFOR-65 (R3) (U)

period of time is a responsibility accepted by all commanders as are the problems that can be expected in such moves. There is normally some confusion involved in unit moves especially when they involve moving from one command to another.

(c) RECOMMENDATION: It is recommended that units be given sufficient time to relocate and reorganize all personnel and equipment. Both the gaining and losing elements should gather all the information necessary for the unit to move in an efficient manner. To insure that the new location is well established prior to movement, it is further recommended that the advance party include the Operations Officer, Admin Officer, Property Book Officer, Maintenance Representatives, Communications Personnel, Motor Pool Officer and Supply Officer. Sufficient time should be given to these personnel to establish the needs of the unit and set up a basis upon which the whole unit may settle.

(d) COMMAND ACTION: The lessons learned on the past moves have been incorporated into unit movement plans to insure a smooth transition.

(C) Communicating in adverse conditions.

(1) OBSERVATION: The range of the RT-525 is limited in adverse conditions such as Vietnam.

(2) EVALUATION: Communications with these radios was found to be weak or inadequate due to excessive dust, sand, and moisture in the radio.

(3) RECOMMENDATION: That commands concerned be reminded that preventive maintenance is the first step towards mission essential communication.

(4) COMMAND ACTION: This requirement has been added to the daily maintenance checklist.

(U) Safety

(1) Increased participation by aviators and crewmembers in Safety Awareness.

(a) OBSERVATION: Due to the number of hours flown and other work loads, Safety Meetings were being held once a month.

(b) EVALUATION: To permit a dynamic safety program and decrease the accident rate, an interest and participation by aviators and crewmembers in the safety program had to be stimulated.

(c) RECOMMENDATION: That commanders concerned be required to hold safety meetings once a week and that enlisted safety meetings be held once a month. Attendance should be mandatory.

(2) Flight following during short flights.

17

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SUBJECT: Operational Report - Lessons Learned, Headquarters, 223rd Combat Aviation Battalion Period Ending 31 October 1971. RCS CSFOR-65 (R3) (U)

(a) OBSERVATION: The use of flight following facilities had not been a standard practice. Flight following facilities were being used only on long flights.

(b) EVALUATION: By failing to use flight following on short flights aviators may delay their rescue if forced down for any reasons.

(c) RECOMMENDATION: That commands concerned make flight following a requirement on all flights no matter how short the flight maybe.

(d) COMMAND ACTION: Flight following is a standard procedure on all flights in this command.

(8) Liaison between Fire Support Base Commanders and Aviation Units.

(a) OBSERVATION: Safety measures were not being considered when planning landing pads on fire support bases.

(b) EVALUATION: Frequently pads were placed so as to require either a downwind approach or an approach to an out of ground effect "hover" to avoid antennas. A closer liaison between aviation and ground units is required to insure that ground commanders realize the limitations of supporting aircraft to include an explanation of the aircraft safety envelope.

(c) RECOMMENDATION: That all commands concerned insure that commanders of ground units being supported know the safety limitations and requirements of all aircraft which are supporting them.

(d) COMMAND ACTION: The above mentioned suggestion is being accomplished in this unit by requiring the Aviation Safety Officer of the supported unit to inspect and certify all landing pads.

f. (C) Logistics

(1) The shelters which provided maximum protection to aircraft during adverse weather conditions.

(a) OBSERVATION: The degree of protection afforded to aircraft during typhoons is directly dependent on the type and conditions of revetments or shelter provided for them.

(b) EVALUATION: It was discovered that the best protection for aircraft during typhoons and high wind conditions was provided by parking the aircraft in F-4 revetments and parking three trucks (vans and tankers) in front of each F-4 to protect aircraft from wind damage and flying debris. Second best protection was provided by U-shaped revetments with two trucks parked at the open end. Very good protection was provided by the hangar. However, the hangars did begin to break up during the height of the typhoon and, had the storm continued longer it could have completely destroyed the hangars and resulted in major damage to all aircraft parked inside.

**CONFIDENTIAL**

CONFIDENTIAL

18

SUBJECT: Operational Report - Lessons Learned, Headquarters 223rd Combat Aviation Battalion Period Ending 31 October 1971. RCS CSFOR-65 (R3) (U)

(c) RECOMMENDATION: That F-4 revetments should be utilized to the maximum extent possible during typhoons and that U-shaped revetments should be used for the remainder of the aircraft. A sufficient number of operational trucks should be parked at the open end of the revetments. It is important that the trucks be operational to facilitate in quick repositioning of vehicles after wind shifts to provide maximum protection at all times.

(d) COMMAND ACTION: This unit will continue to make maximum use of F-4 and U-shaped revetments in the future.

(2) Security of billet roofs.

(a) OBSERVATION: Billet roofs in the Battalion area received extensive damage due to high winds.

(b) EVALUATION: Billet roofs were damaged because of inadequate security of sheet metal panels. It was noted that those buildings which had been recently inspected, repaired, and evenly sandbagged, still received damage due to high winds. Inadequately secured roofs result in damage to personal belongings and produces a safety hazard to all personnel during periods of intensive high wind conditions.

(c) RECOMMENDATION: That buildings be inspected at regular intervals for proper structural strength and that two 1" x 6" lumber planks be placed and nailed longitudinally along the roof on top of the sheet metal panels and sandbags be placed on top of the 1" x 6" planks.

(d) COMMAND ACTION: This unit has adopted the policy of placing and nailing two 1" x 6" lumber planks longitudinally along the roof and placing sandbags on top of the lumber planks.

(3) Electrical wiring in billet areas.

(a) OBSERVATION: Electrical lines leading into the billets broke during Typhoon Hester.

(b) EVALUATION: Electrical lines leading into the billets were installed improperly and were stretched far too tight. This resulted in inadequate sway characteristics of electrical lines thus placing too much tension on the line during high wind conditions and causing them to snap.

(c) RECOMMENDATION: That electrical lines leading into the billets be rewired using proper droop procedures.

(d) COMMAND ACTION: Every effort is being made to install the electrical lines with proper droop characteristics.

(4) Property Accountability

(a) OBSERVATION: Accountability during unit movements of any magnitude must be emphasized. Units required to relocate are subject to considerable

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SUBJECT: Operational Report - Lessons Learned, Headquarters 223rd Combat  
Aviation Battalion Period Ending 31 October 1971. RCS CSFOR-65 (R3) (U)

loss if improper procedures are instituted during the move. Property Book Officers and accountable individuals must not be separated from the property they are responsible for. Major losses have occurred during movements of units who required the Property Book Officer to be separated from his property for any length of time.

(b) EVALUATION: Movement procedures were inadequate because responsible and accountable individuals were required to be in areas other than where the property was located.

(c) RECOMMENDATION: Units while in a movement status should insure accountability of property by the physical presence of responsible and accountable officers.

(d) COMMAND ACTION: Supervision and assistance will be provided relocating units to insure accountable and responsible individuals are directly involved with the movement and are physically present during all stages of relocation.

7 Incl  
nc

*C. F. McGillicuddy*  
C. F. MCGILLICUDDY  
LTC, IN  
Commanding

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21

CONFIDENTIAL

28 DEC 1971

AVBAGC (13 Nov 71) 1st Ind

SUBJECT: Operational Report Lessons Learned, 223rd Combat Aviation Battalion  
Period Ending 31 October 1971. RCS CSFOR-65 (R1)(C)

DA, Headquarters, 1st Aviation Brigade, APO San Francisco 96384


TO: Commanding General, United States Army Vietnam, ATTN: AVHDO-DO,  
APO San Francisco 96375

This headquarters has reviewed the Operational Report-Lessons Learned of  
the 223rd Combat Aviation Battalion for the period ending 31 October 1971  
with the following comments:

a. Reference Incl # 3, Unit Casualties, Wounded in Action Column,  
Officer Change number to read 3; Warrant change number to read 3; Enlisted  
change number to read 3; total change numbers to read 9.

b. Reference Incl # 3, Unit Casualties, Injured non-hostile column,  
Officer change number to read 1; Warrant change number to read 0; Enlisted  
change number to read 9; Total change number to read 10.

FOR THE COMMANDER:

  
MATTHEW SANGER  
1LT, AGC  
Asst Adjutant General

CONFIDENTIAL



23

AVHDO-DO (13 Nov 71) 2nd Ind

SUBJECT: Operational Reports Lessons Learned, 223rd Combat Aviation Battalion  
Period Ending 31 October 1971, RCS CSFOR-65 (R3) (U)

Headquarters, United States Army Vietnam, APO San Francisco 96375 2 FEB 1972

TO: Commander in Chief, United States Army Pacific, ATTN: GPOP-FD,  
APO 96558

This Headquarters has reviewed the Operational Report-Lessons Learned for the period ending 31 October 1971 from Headquarters, 223d Combat Aviation Battalion and concurs with comments of indorsing headquarters.

FOR THE COMMANDER:

  
F. L. HONSOWETZ  
CPT. AGC.  
Assistant Adjutant General

24  
GPOP-FD (13 Nov 71) 3d Ind (U)  
SUBJECT: Operational Report-Lessons Learned, HQ 223d Combat  
Aviation Battalion, Period Ending 31 October 1971,  
RCS CSFOR-65 (R3)

HQ, US Army, Pacific, APO San Francisco 96558 6 MAR 1972

TO: HQDA (DAFD-ZA) WASH DC 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

*M. L. Mah*

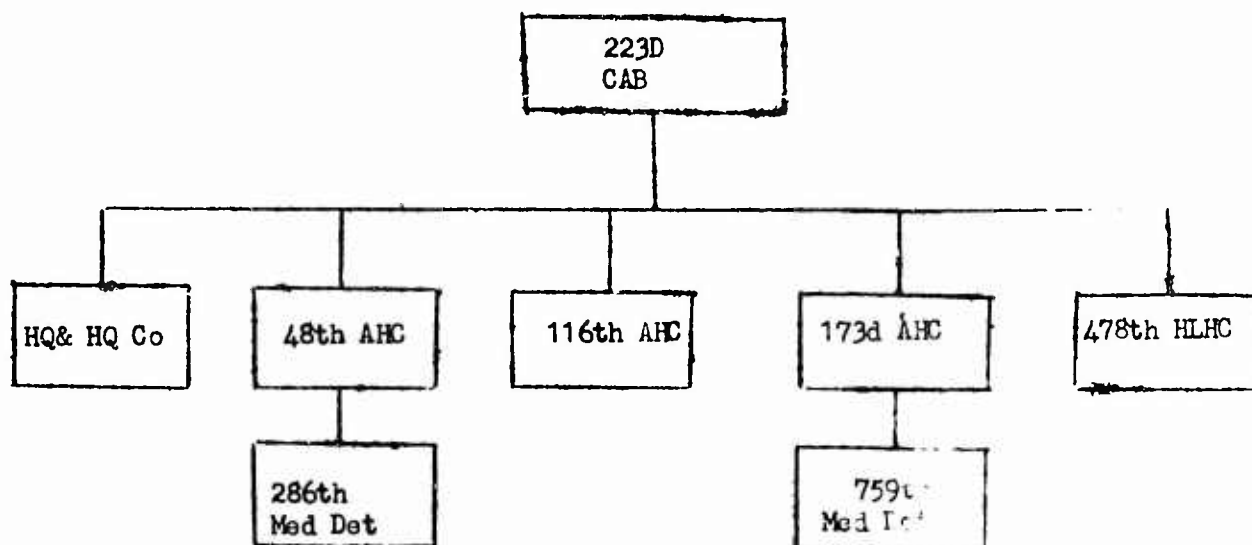
M. L. MAH  
1LT, AGC  
Asst AG

25-

# CONFIDENTIAL

## ORGANIZATIONAL CHART

223D CAB



All units presently located at Marble Mountain Army Air Field APO 96349

Inclosure # 1-1 to Incl 2 13

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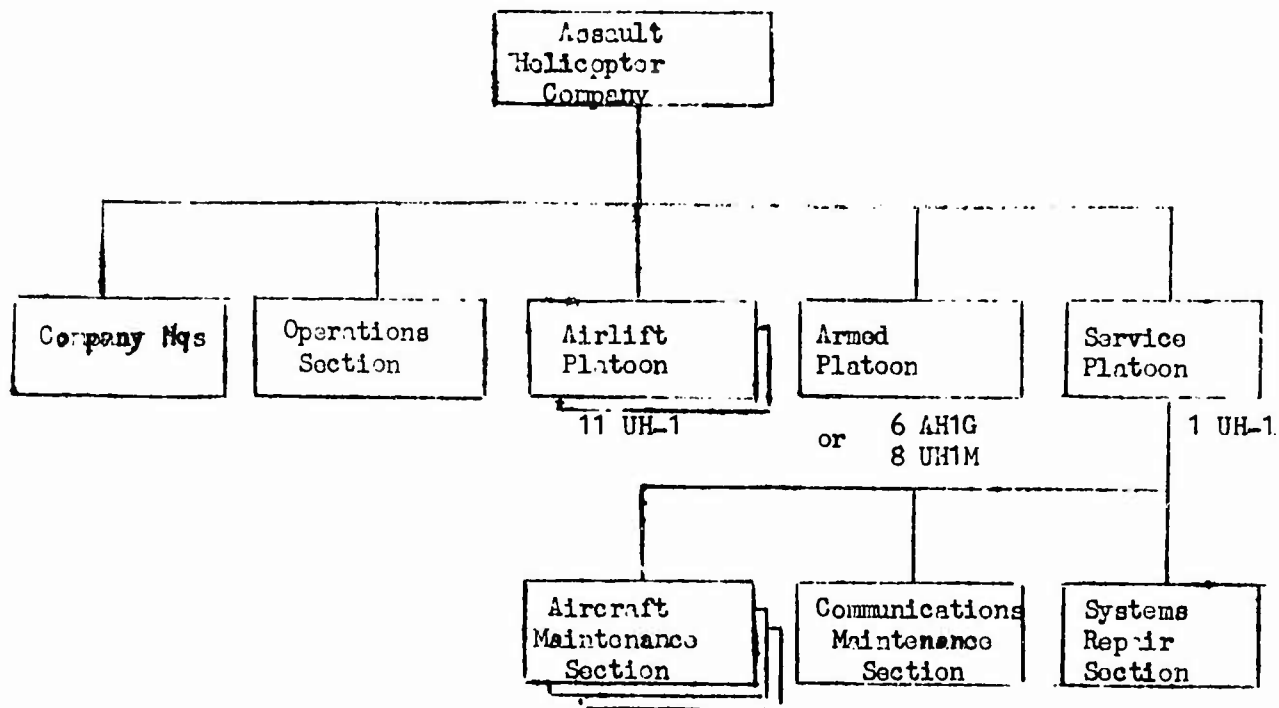
**CONFIDENTIAL**  
ORGANIZATIONAL CHART

26

48TH

116TH

173D



Inclosure # 1-2 to Incl 2

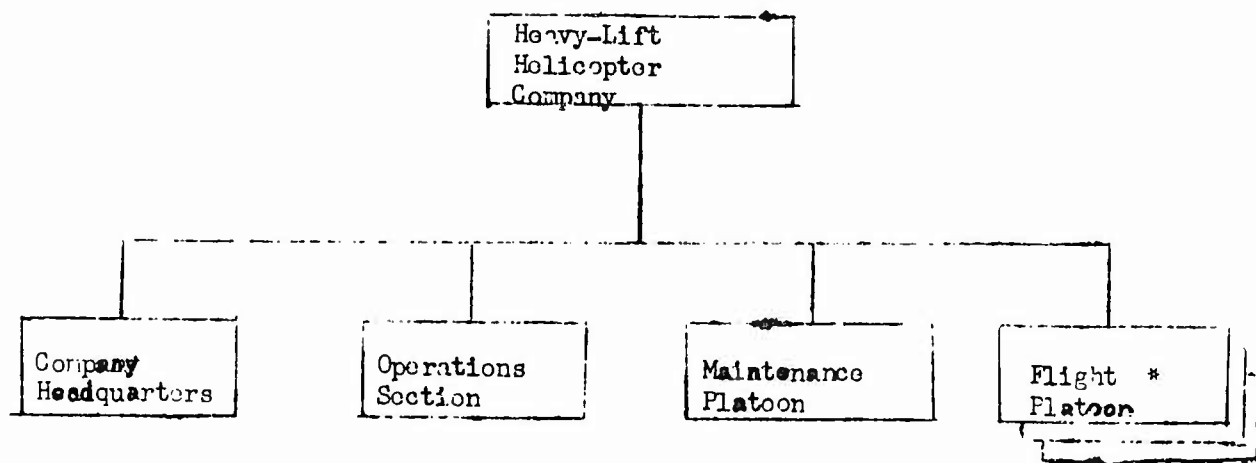
14

**CONFIDENTIAL**

27

**CONFIDENTIAL**  
ORGANIZATIONAL CHART

478th



\* 3d Platoon attached to the 165th Combat Aviation Group, Long Binh, RVN.

Inclosure # 1-3 to Incl 2 15

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# CONFIDENTIAL

Personnel Status as of 31 October 1971

28

UNIT	Officer		Warrant Officer		Enlisted		Total	
	Auth	O/H	Auth	O/H	Auth	O/H	Auth	O/H
HHC, 223d CAB	19	19	3	9	85	118	107	146
48th AHC	18	25	48	30	214	191	280	246
116th AHC	18	35	51	25	217	178	286	238
173rd AHC	18	30	48	35	214	183	280	248
478th HLHC	17	7	17	7	153	113	187	127
286th Mod Det	1	1	0	0	7	6	8	7
759th Mod Det	1	0	0	0	5	5	6	5
TOTAL	92	117	167	106	895	794	1154	1017

UNIT	DAC		VN		3rd NATIL		CONTRACTORS	
	AUTH	O/H	AUTH	O/H	AUTH	O/H	AUTH	O/H
HHC, 223d CAB	-	-	1Per6	-	-	-	-	-
48th AHC	-	3	"	-	-	-	-	-
116th AHC	-	-	"	-	-	-	-	3
173rd AHC	-	-	"	-	-	-	2	2
478th HLHC	1	1	"	-	-	-	-	-
286th Mod Det	-	-	"	-	-	-	-	-
759th Mod Det	-	-	"	-	-	-	-	-
TOTAL	1	4	0	0	0	0	2	5

Inclosure # 2 to Incl 2

16

CONFIDENTIAL

29

## UNIT CASUALTIES - 1 MAY 71 to 31 OCT 71

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GRADE	KILLED IN ACTION	KILLED NON- HOSTILE	WOUNDED IN ACTION	INJURED NON HOSTILE	MISSING IN ACTION
OFFICER	0	0	4	2	0
WARRANT	0	2	5	2	0
ENLISTED	0	4	6	10	0
TOTAL	0	6	15	14	0

## UNIT AWARDS - 1 MAY 1971 to 31 OCTOBER 1971

AWARD	SUBMITTED	RECEIVED
DISTINGUISHED SERVICE CROSS	1	0
SILVER STAR	22	11
LEGION OF MERIT	0	0
DISTINGUISHED FLYING CROSS	42	4
SOLIDERS MEDAL	0	0
BRONZE STAR (VALOR)	0	0
BRONZE STAR (ACHIEVEMENT)	22	11
BRONZE STAR (SERVICE)	85	19
AIR MEDAL (VALOR)	37	17
AIR MEDAL	297	200
ARMY COMMENDATION MEDAL (VALOR)	1	0
ARMY COMMENDATION MEDAL (ACHIEVEMENT)	88	45
ARMY COMMENDATION MEDAL (SERVICE)	60	17
PURPLE HEART	16	11

Inclosure # 3 to Incl 2

17

**CONFIDENTIAL**

OPERATIONAL STATISTICS

30

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UNIT	SORTIES FLOWN	PAX LIFTED	CARGO LIFTED (TONS)	STRUCTURES		SAMPANS		AIRCRAFT CONFIRMED LOST	AIRCRAFT DAMAGED
				DAM	DEST	DAM	DEST		
HHC, 223 CAB	3169	466	4	0	0	0	0	0	0
48th	24,103	40,404	499	36	8	0	0	0	12
116th AHC	2,079	2,865	46	0	0	0	0	1	5
173rd AHC	25,119	43,852	1,016	80	65	0	0	1	11
478th HLHC	3,230	265	6554	-	-	-	-	0	4

Inclosure # 4 to Incl 2

18

CONFIDENTIAL



31

## MONTHLY HOURS FLOW

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UNIT	ACFT	MAY	JUNE	JULY	AUGUST	SEPT	OCTOBER	TOTAL
HHC	OH-58	111	58	91	139	161	87	647
	UH-1H	52	19	22	39	44	23	199
48th AHC	UH-1H	1411	1317	1240	1262	1553	1119	7902
	AH-1G	268	261	306	255	244	263	1597
173d AHC	UH-1H	1333	1319	1350	1451	1433	1237	8123
	UH-1G	240	7	1	-	-	-	248
	AH-1G	9	201	161	287	270	262	1190
179th ASHC	OH-58	69	66	58	*	-	-	193
	CH-47	736	513	10	-	-	-	1259
478th HLC	OH-6A	-	18	-	-	-	-	18
	OH-58	-	-	12	26	39	32	109
	CH-54	372	291	282	372	289	208	1814
116th AHC	UH-1H	-	-	-	-	-	1132	1132
	UH-1M	-	-	-	-	-	205	205
TOTAL		4601	4070	3533	3831	4033	4568	24,636

Inclosure # 5 to Incl 2

19

**CONFIDENTIAL**

AVERAGE MONTHLY AIRCRAFT AVAILABILITY

32

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UNIT	ACFT	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
HHC	OH-58	71.3	73.1	85.8	88.8	60.2	61.2
	UH-1H	86.2	96.4	100.0	77.4	100.0	95.2
48th AHC	UH-1H	68.0	80.2	86.8	86.7	83.7	89.6
	AH-1G	67.0	67.0	76.8	80.0	85.8	68.4
173rd AHC	UH-1H	75.6	77.1	84.5	82.6	85.7	87.6
	UH-1C	73.1	40.0	20.9	-	-	-
	AH-1G	100.0	87.8	65.8	78.0	82.7	78.0
179th ASHC	OH-58	83.5	94.3	100.0	-	-	-
	CH-47C	65.6	72.9	21.8 *	-	-	-
478th HLHC	OH-6A	-	68.0	-	-	-	-
	OH-58	-	-	100.0	77.0	100.0	90.3
	CH-54	86.0	88.0	87.0	90.0	88.0	77.5
116th AHC	UH1H	-	-	-	-	-	71.6
	UH1M	-	-	-	-	-	75.0

\* Unit was redeployed to CONUS during July the only Aircraft Reportable were in maintenance awaiting turn-in.

Inclosure # 6 to Incl 2

20

**CONFIDENTIAL**

33

## AIRCRAFT STATUS AS OF 31 OCTOBER 1971

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UNIT	OH-58A		UH-1H		UH-1M		AH-1H		CH-54	
	AUTH	O/H	AUTH	O/H	AUTH	O/H	AUTH	O/H	AUTH	O/H
HHC	3	3	0	1	-	-	-	-	-	-
48th AHC	-	-	23	22	-	-	6	17	-	-
116th AHC	-	-	23	22	8	8	-	-	-	-
173d AHC	-	-	23	22	-	-	6	6	-	-
478th HLHC	0	1	-	-	-	-	-	-	9	7*

\* Unit TO&E is presently being modified to allow a third Platoon (separate).  
No General Order has been published yet.

## ACCIDENT RATE

	HOURS	Precau- tionaries	Incidents	Accidents	Acc. Rate
MAY	4601	4	4	3	65.2
JUNE	4070	1	1	0	0
JULY	3533	9	0	1	28.3
AUGUST	3831	3	1	0	0
SEPTEMBER	4038	4	1	1	24.8
OCTOBER	4568	1	1	1	21.9
TOTAL	24,636	22	8	6	24.35

Enclosure # 7 to Incl 2

21

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35

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 145th Aviation BATTALION (COMBAT)  
APO San Francisco 96266

"FIRST IN VIETNAM"

AVBAUV-C


13 November 1971

SUBJECT: Operational Report - Lessons Learned, 145th Aviation  
Battalion (Combat), Period Ending 31 October 1971 (RCS:  
CSFOR-65 (R3) (U)

SEE DISTRIBUTION

1. Reference AR 525-15 and USARV Reg 525-15.
2. Attached is the Operational Report - Lessons Learned covering the activities of the 145th Aviation Battalion (Combat) for the period 1 May 1971 through 31 October 1971.

FOR THE COMMANDER:

  
JAMES H. MARCH  
CPT, FA  
Adjutant

DAFD-OTT  
712031  
Incl 3

DOWNGRADED AT 3 YEAR INTERVALS;  
DECLASSIFIED AFTER 12 YEARS.  
DOD DIR 5200.10

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36

AVEAUV-C

13 November 1971

SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion  
(Combat), Period Ending 31 October 1971. (RCS: CSFOR-65(R3) (U)

II. (C) Lessons Learned:

1. Personnel:

a. S-1:

(1) Observations: The only problem area encountered by the S-1 section was in the stand down of the 242nd ASHC. Disposition of personnel was not learned until approximately 8 to 10 days prior to the final redeployment date.

(2) Evaluation: Although the above problem did not cause the unit to exceed its stand down date, the smooth execution of the stand down was greatly hampered by the mass exodus of personnel during the final phase. The company also had to retain a significant amount of equipment to support its personnel. As personnel departed, the unit found it necessary to dispose of its equipment in a relatively short period of time.

(3) Recommendation: Recommend that every effort be made to distribute assignment orders for personnel in a stand down unit at the earliest possible date. This would result in an orderly loss of personnel and equipment and give the unit a base from which to plan stand down actions an index to use in assigning priorities to these actions.

b. S-4:

(1) Observation: There is a critical shortage of trained personnel, supply and motor maintenance, within the 145th CAB.

(2) Evaluation: At present this battalion has two of five supply sergeants authorized. In the motor maintenance area, 15 of the 24 authorized slots are filled with personnel with non-maintenance MOS's.

(3) Recommendations: The S-4 staff will conduct regularly scheduled classes to teach supply and motor maintenance procedures. This classroom instruction plus the continued OJT program will insure that the supply and maintenance tasks are properly performed. Due to the number of units standing down the supply and maintenance areas must be given special emphasis.

(4) Command Action: Companies subordinate to this battalion will send their personnel to the classes.

c. 213th ASHC:

(1) Observation: To sustain a 1200 to 1300 hour flying month, the company should be at full TOE/MTOE strength. Augmentation of additional critical skill personnel was necessary. Examples of these

CONFIDENTIAL

10

39

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AVBAUV-C

SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion (Combat), Period Ending 31 October 1971 (RCS: CSFOR-65(R3) (U)

622. Preventive Maintenance Periodic Teams were increased from three to five teams. The two engine men (68B20) could not handle the work load and additional personnel were placed on the job to QJT. These men were 67U MOS's. Additional Technical Inspectors 67W20's were cross trained from experienced 67U MOS personnel.

(2) Evaluation: Company TOE strength should be maintained at all times.

(3) Recommendations: Units should be maintained at TOE/MTOE strength at all times in all MOS areas.

d. 25th CAC:

(1) Observation: The 25th Corps Aviation Company's aircraft TO&E authorization is 7 UH-1H's and 4 LOH's. The company has been assigned additional missions, and augmented with additional aircraft in which to perform this mission. The company's present inventory consists of 11 UH-1H's with one more to be assigned, and 8 OH-58A's. The company's authorized enlisted strength is 100 based on 7 UH-1H and 4 OH-58A aircraft authorization. At the present time, 117 enlisted personnel are assigned to the 25th CAC to support 11 UH-1H and 8 OH-58A aircraft.

(2) Evaluation: The enlisted personnel assigned are not adequate to support assigned aircraft.

(3) Recommendations: That the 25th CAC be augmented with additional personnel to support the aircraft augmentation.

(4) Command Action: Letter has been forwarded through command channels requesting recommendation be approved.

2. Intelligence:

a. Observation: Several instances have occurred recently where in aerial field artillery sections prepared for target attack either have not or have been incompletely informed regarding the target they are about to attack.

b. Evaluation: The most serious instances concern the location of heavy anti-aircraft positions near targets to be attacked. The unit requesting the target attack passes on intelligence information about the target either from the high-bird Cobra or from the C&C UH-1H aircraft. Several times the controlling aircraft have not informed the AFA section as to the location or proximity of .51 caliber enemy gun positions. AFA sections attack targets from any direction, and unless informed otherwise will use a direction of attack which is parallel to friendly front lines or parallel to the long axis of the target. In Cambodia, there are rarely any friendly front lines. Thus, AFA sections have attacked targets from the best axis, only to find upon breaking from the attack

CONFIDENTIAL

38

AVBAUV-C

13 November 1971

SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion (Combat), Period Ending 31 October 1971 (RCS: CSFOR-65 (R3) (U)

that they are breaking directly over .51 caliber positions, and are simultaneously receiving heavy .51 caliber anti-aircraft fires.

c. Recommendation: That the controlling aircraft inform the AFA sections of all pertinent data concerning the target, to include the location of any and all enemy positions, and especially those from which the supported unit has drawn enemy fires.

d. Command Action: Command letter forwarded to 12th Aviation Group (Combat).

### 3. Operations:

#### a. CH-47 Rotorwash Hazards:

(1) Observation: This unit was recently involved in an incident in which a Vietnamese boy suffered a broken leg. The incident took place when one of our CH-47C "Chinooks" was on final approach into an area next to a Vietnamese village. The boy was injured as a result of the high winds created by the rotor wash of the CH-47. The pilots of the aircraft were in radio contact with American personnel on the ground throughout the entire mission. When the pilots requested smoke be thrown to determine the wind direction and desired location for the load to be placed, the smoke was thrown very close to a Vietnamese house. The aircraft Commander modified his approach path and point of touchdown to allow maximum clearance from the buildings and personnel in the LZ. However, the injury occurred because the LZ was too small to allow sufficient clearance between the aircraft and the buildings in order to allow the rotor wash to dissipate prior to reaching the buildings.

(2) Evaluation: Very few ground personnel are familiar with the velocity and force of the rotor wash of the CH-47C "Chinook". Just because the pilots of such an aircraft are in radio contact with the ground control personnel and are directed by them to enter, land, or depart a specific area does not relieve the pilots of responsibility for damage caused by their aircraft. The pilots must determine the feasibility of each area, utilizing their own judgement and knowledge of the characteristics of their particular aircraft.

(3) Recommendations: That proper utilization of a high and low reconnaissance be stressed to the pilots of this command and that they be advised to evaluate all instructions received from ground personnel.

(4) Command Action: The aviators assigned to this unit have been instructed to utilize a high and low reconnaissance and make their own determination of the suitability of all landing and pick-up zones.

#### b. Proper Rigging of External CH-47 Loads:

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39

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13 November 1971

SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion (Combat), Period Ending 31 October 1971 (RCS: CSFOR-65 (R3) (U)

(1) Observation: During a twenty-one (21) day period the number of unsafe loads prepared by supported units increased greatly.

(2) Evaluation: During recent weeks, liaison visits to supported units have revealed the use of cut, frayed, rolled, undated, and otherwise unserviceable sling equipment. In some cases, the OIC or NCOIC of the resupply operation were aware of these shortcomings, but were unable to get new equipment or facilities to maintain the equipment they had. In other instances, the personnel were completely unaware of the care and maintenance required for airlift equipment, unaware of the six (6) month limitation on usage, and not trained in correct rigging procedures. Due to a shortage of trained or experienced personnel, many loads rigged are totally unacceptable. If an attempt is made to continue to support ground units under these conditions, the inevitable dropped loads will reflect adversely upon skill and professionalism of the aviation unit concerned.

(3) Recommendations: That cargo helicopter companies reemphasize the importance of requiring a pathfinder or the flight engineer to physically check the rigging of the load and the condition of the sling equipment prior to hook-up. That cargo helicopter companies conduct classes in load rigging and airlift equipment serviceability on a regularly scheduled basis for all aviators and flight crew members. That cargo helicopter companies make frequent liaison visits to supported units for the purpose of assisting these units to employ safe rigging practices. Classes, similar to those given crew members, should be given to the supported unit resupply personnel.

(4) Command Action: The above suggestions are a regular part of the 213th Assault Support Helicopter Company training program and liaison effort.

c. New Methods of Target Attack:

(1) Observation: Friendly troops locations with respect to targets in Cambodia have allowed the AFA sections employed to experiment with and devise new methods of target attack. One new method of attack has proved worthy of use and will be indicated. This method allows target attack outside of proximity of heavy anti-aircraft fires and allows target attack in marginal weather.

(2) Evaluation: Historically, AFA sections have used a standard angle of attack for the AH-1G Cobra with target attack beginning at 3000 ft. AGL and termination of the attack break being no lower than 1500 ft. AGL respectively. However, with the monsoon season and low ceilings approaching, another method was experimented with. The AFA sections of this unit now employ a lobbing technique for target attack. Aviator experience has indicated that with an increase in torque settings on the aircraft, this depending on the type of 2.75" rocket (10# HE, 17# HE), it is possible to accurately place rockets on target from great distances. Rocket motor burnout now occurs approximately one-half the distance to the target. Following is a list of parameters which are assumed to

**CONFIDENTIAL**



CONFIDENTIAL

40

AVBAUV-C 13 November 1971  
SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion  
(Combat), Period Ending 31 October 1971 (RCS: CSFOR-65 (R3) (U)

exist for this target attack method.

- (a) Maximum weather ceilings will be 2000 ft. AGL or lower.
- (b) The effective slant range of the .51 caliber anti-aircraft guns is 3500 ft.
- (c) All AK-1G rocket pods are parallel boresighted to within  $\pm$  1 mil.
- (d) Target to be attacked has the facility for a  $\pm$  300 meters of range probable error.
- (e) All rockets will be fired within 3 to 5 firing passes.
- (f) Target attack will be from random locations if possible.
- (h) Flechette rockets will not be fired utilizing this method. It must be emphasized that aviators need sufficient training to be capable of utilizing this technique. In past methods, rocket motor burnout has been utilized as an accuracy indicator. Now the aviator must be proficient in estimating range.

(3) Recommendation: That aviators continue evaluating this technique for possible adoption as an aerial field artillery tactic. This technique to be used only when weather is marginal, 2000 ft. AGL or lower.

(4) Command Action: None.

d. Low Altitude - Long Distance Rocket Attack:

(1) Observations: During the Cambodian operation, AFA has experimented with many different methods of target attack such as lobbing rockets from a low altitude and a long distance away. Another method experimented with was a high altitude lobbing technique for target attack.

(2) Evaluation: Previously AFA tactics involved a standard angle of attack with the attack run starting at approximately 3000 AGL and ending no lower than 1500 AGL. With a high or unlimited ceiling, a high shallow dive was found to be better against enemy anti-aircraft fire, primarily 51 caliber fire. Utilizing the new method of attack, an AFA section will use a shallow angle of attack from an altitude of 6000 AGL or higher. Utilizing this method, it is possible to accurately place rocket fire on target  $\pm$  50 meters from a long distance. Employing this method of target attack, the following must be carefully considered.

CONFIDENTIAL

41

# CONFIDENTIAL

AVBAUV-C

SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion (Combat), Period Ending 31 October 1971 (RCS: CSFOR-65(R3) (U)

(a) A constant torque setting is critical for this method of attack. Experience indicates that an addition of approximately 3-4 psi of torque is required for 17 lb rockets as opposed to 10 lb HE rockets.

(b) Relative wind and rocket drift also became critical. The pilot in command must know the wind direction at all times and correct accordingly.

(3) Summary: All the factors affecting on target accuracy are more critical when utilizing the high altitude lobbing method of target attack. It must be emphasized that aviators need sufficient training to be capable of utilizing this technique, where in the past, rocket motor burn out was used as an accuracy indicator. Now the aviator must be able to judge distance accurately. This technique has been employed within 200 meters of friendly forces with HE war heads. This technique is not used when firing flechette rockets.

(4) Recommendations: That this technique, along with other lobbing techniques, continue to be evaluated as a possible method of combating large caliber weapons.

e. Specific Pilot Techniques Employed to Defeat Enemy Anti-Aircraft and Mortar Fire at FSB PACE.

(1) Observation: The 213th ASHC had most of its aircraft going into Fire Support Base PACE fired on by mortars with many fired on by small and heavy caliber auto-matic weapons also. On 1, 2, and 3 October, a total of 20 CH-47's of this unit flew into Fire Support Base PACE and all received fire. During the entire operation, only two CH-47's of this unit were hit by ground fire, in both cases, one round of small arms fire. Only one 213th CH-47 was hit by mortar fragments.

(2) Evaluation: All .51 caliber positions were identified quickly, usually in one km. This was sufficient as these numerous positions were all in heavily wooded areas and not on the edge of the tree line. Small arms muzzle flashes and several NVA troops were observed firing. After clearance was granted by the ground unit and all friendly positions positively identified, suppressive fire from the CH-47 door gunners was used. The main source of danger for the C-47's came from mortar rounds falling in the LZ. The ground unit knew the fire was coming from the west and small arms and .51 caliber fire eliminated approaches from all the north-east, approaches were made from this direction using high rates of descent varying from 1800 to 2500 fpm initially. Rates slowed to 1000 fpm on final approach and speeds were kept at 90 to 100 knots, loads permitting, until the last possible moment. Approaches were planned to place the loads directly on the ground quickly but gently. The Firebase put suppressive fire into the tree line to discourage any adjustments of mortar fire by a field observer, should he be observing the touchdown

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CONFIDENTIAL

AVBAUV-C

13 November 1971

SUBJECT: Operational Report - Lessons Learned: 145th Aviation Battalion  
(Combat), Period Ending 31 October 1971 (RCS: CSFOR-65(R3) (U)

points. It appeared that the enemy mortar rounds were usually fired as the CH-47 dropped below the tree tops. The 10 to 15 second delay before impact was usually sufficient to get a load down and get clear of the LZ before rounds impacted. Variance of touchdown points as much as 200 yds north of the helipad for two loads then 100 yds south for a load or two worked well. Observation of impacting rounds by the sister CH-47's and gunships on escort appeared to confirm that while the enemy gunners range varied, he had difficulty in making deflections of any degree. Approaches were also planned to give the appearance of landing toward the northern end of the perimeter, once below the tree line the loads were actually placed on the south end. Departures were all made VIA the same approach paths it was the only route not covered by enemy ground fire. Maximum performance take offs were used. Forty to fifty knots of airspeed and near max power producing 2500 to 3000 fpm climbs were common. Aircraft outbound passed to the right of aircraft inbound in near proximity of each other allowing the gunships to maintain their cover of both while not breaking patterns exposing themselves unnecessarily.

(3) Recommendations: Recommendations are only that some of the techniques described in item 2 above be considered, as they worked well during this particular operation over a period of three weeks for the 213th ASHC.

f. Use of Unit Control Team in the Pickup Zone:

(1) Observation: Control of CH-47's in the PZ, directions, and instructions as to LZ's and all coordinating instructions were left to the unit's control team. The Army Aviation Element (AAE) representative coordinated directly with the control team's OIC and overall it produced excellent results.

(2) Evaluation: The most expeditious and productive control was effected by having a control team OIC that was a qualified pilot and was experienced in flying CH-47 aircraft. The greatest delays were caused by the control teams lack of authority to coordinate directly with the gunships supporting the CH-47's. Either the gunships had no control team or liaison officer on the ground or else they were coordinating with another controlling agency. Gunship escort was normally requested through AAE, then if priorities changed the CH-47's were not always informed, resulting in three or four CH-47's being launched and orbiting.

(4) Speakers used on PRC-25 radios are much better than headsets alone, as they allow freedom of movement from the radio while still monitoring traffic.

CONFIDENTIAL

43

CONFIDENTIAL

AVBAUV-C 13 November 1971  
SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion  
(Combat), Period Ending 31 October 1971 (RCS: CSFOR-65 (R3) (U)

(b) Teams must have sufficient personnel to allow the OIC flexibility to provide the required control. A minimum of two pathfinders were found to be essential and three ideal.

(c) Spare radios and spare batteries are a must.

(d) Frequencies, location of LZ's and call signs were never changed resulting in the MVA/VC being capable of continuous monitoring and having advanced knowledge of gunship and resupply activities.

(e) Load priorities were unchangeable after being established. Delays of 30 to 45 minutes were encountered due to loads not being ready. Loads that could have been moved during this time were not due to having a lower priority. This caused CH-47's to be idle when they could have been more effectively utilized.

(f) Control of foreign objects and debris in the PZ must be stressed from the start of an operation, or it will soon become a major hazard that must be tolerated or the mission must be delayed to remedy it.

(g) All loads should be rigged the night before whenever possible, particularly the first priority loads to be lifted.

(h) No artillery warning system was in effect that could be effectively used without wasting flying time as no artillery corridors were established. Local firebases gave you artillery warning if you called and requested it inbound, otherwise, the pilots had to watch for muzzle flashes and impact areas to try to stay clear of gun target lines.

(i) "Piggy-back" loads should be avoided when possible as it increases time in the LZ.

(3) Recommendations:

(a) Units should train control teams and have a plan for their use if necessary.

(b) An artillery fire support plan should be made to include aerial corridors for aerial resupply and aircraft movement.

(c) ARVN logistics personnel must be trained to police PZ's and LZ's.

4. Aviator Training:

CONFIDENTIAL

44

AVIAV-1

13 November 1971

SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion  
(Combat), Period Ending 31 October 1971 (RCS: CSPOR-65 (R3) (U)

a. Observations: Pilots fresh from CH-47 transition at Ft. Rucker are not sufficiently trained in the flying of sling loads. Five out of eight pilots reporting to this unit from Ft. Rucker had no flight instruction with sling loads. Other recent trainees had received training on only one kind of load, 8000 or 9000 lb. concrete blocks. No variations in types of loads had been taught. Sling loads such as downed aircraft, comex containers, artillery with piggy backs, water trailers, bridge sections and double sorties (two small separate loads on one hook) each require specific knowledge and skills. These skills are severely lacking in new pilots recently graduated from USMAVNS. Another area lacking in new pilots is the ability to handle the CH-47 in instrument conditions. The basic skills are there as a carry over from the TH-13T, but not enough training on the use of these skills in the CH-47.

b. Evaluations: During the month of July and August twelve new aviators were assigned to the 213th ASHC. Only three of these pilots were 2nd tour CH-47 pilots. Due to the foresight of this company, 82.9 hours of training in the above mentioned areas was flown to get those pilots additional training. In September, it proved worthwhile. The 1260 hour month of September and the 1356 hour month of October quickly put high time on the units aircraft commanders. These new pilots were given command of CH-47's to accomplish the missions and here the additional training, and in some cases the lack of it, appeared. Their performance was outstanding, however, only a constant effort of tailoring the pilots ability to handle specific missions and constant training produced an accident free operation.

c. Recommendations: More variations in types of sling loads should be taught in CH-47 transition. More time should be devoted to increasing the proficiency of these new CH-47 pilots.

5. Communications: Use of a common UHF frequency during CH-47 operations with gunship escorts:

a. Observations: The use of one common UHF frequency to coordinate and talk to gunship escorts, when more than one LZ is being used, is unacceptable.

b. Evaluation: Interference and blocked radios are the result if one gun team is covering several CH-47's going into an LZ, and 20 km away another gun team is covering several more CH-47's going to another LZ on the same UHF frequency.

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AVBAUV-C

13 November 1971

SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion  
(Combat), Period Ending 31 October 1971 (RCS: CSFOR-65 (R3) (U)

c. Recommendations: Each gun team and its CH-47's have a separate UHF frequency.

5. Material: Procedures to Obtain Aircraft Parts:

a. Observation: Normal supply procedures are too slow to keep up the stockage of critical parts.

b. Evaluation: Normal supply channels can not react to parts demands that have been based on 750 flying hours per month, when changed to 1200 to 1300 hours per month in just a few days.

c. Recommendations: Parts requests and issuance must be streamlined and requisitions hand carried from units direct to DSU, DSSA, and AMMC units. Prior coordination must be made to avoid delays.

4 Incl

**CONFIDENTIAL**

47  
AVBAUS-C (13 Nov 71) 1st Ind  
SUBJECT: Operational Report -Lessons Learned, 145th Aviation  
Battalion (Combat), Period Ending 31 October 1971 (RCS:  
CSFOR-65 (R3) (U)

DA, HEADQUARTERS, 12TH COMBAT AVIATION GROUP, APO 96266, 21 November 1971

THRU: Commanding General, Third Regional Assistance Command, ATTN: MACTR-G3,  
APO 96266  
Commanding General, 1st Aviation Brigade, ATTN: AVBAGO, APO 96384  
Commanding General, US Army Vietnam, ATTN: AVHCG-DST, APO 96375  
Commander-in-Chief, US Army Pacific, ATTN: GPOP-DT, APO 96558

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D.C. 20310

(U) This headquarters has reviewed and concurs with the Operational Report -  
Lessons Learned for the period ending 31 October 1971 from Headquarters,  
145th Combat Aviation Battalion.

FOR THE COMMANDER:

  
JOHN J. SPENCER JR.  
MAJ, IN  
Adjutant



48

MACTR-G3PT (31 Oct 71) 2d Ind  
SUBJECT: Operational Report - Lessons Learned, 145th Aviation Battalion  
(Combat) for period ending 31 October 1971. RCS CSFOR-65 (R3) (U)

Headquarters, Third Regional Assistance Command, APO SF 96266 8 DEC 1971

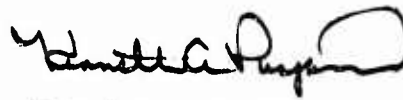
THRU: Commanding General, United States Army Vietnam, ATTN: AVHDO-DO,  
APO 96375

Commander-In-Chief, United States Army Pacific, ATTN: GBOP-DT,  
APO SF 96538

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D.C. 20310

(U) This headquarters has reviewed and concurs with the Operational Report -  
Lessons Learned for the period ending 31 October 1971 from Headquarters,  
145th Aviation Battalion (Combat).

FOR THE COMMANDER:



KENNETH A. PAYANT  
Major, AGC  
Deputy Adjutant General



49  
AVHDO-DO (13 Nov 71) 3rd Ind

JAN 14 1972

SUBJECT: Operational Report-Lessons Learned, 145th Aviation Battalion  
(Combat), Period Ending 31 October 1971 (RCS: CSFOR-65(R3) (U)

Headquarters, United States Army Vietnam, APO San Francisco 96375

TO: Commander in Chief, United States Army Pacific, ATTN: GPOP-FD,  
APO 96558

This Headquarters has reviewed the Operational Report-Lessons Learned for the period ending 31 October 1971 from Headquarters, 145th Combat Aviation Battalion and concurs with comments of indorsing headquarters.

FOR THE COMMANDER:

  
L. HONSOWETZ  
CPT. AGC.  
Assistant Adjutant General

52

GPOP-FD (13 Nov 71) 4th Ind (U)  
SUBJECT: Operational Report-Lessons Learned, HQ 145th  
Aviation Battalion (Cbt), Period Ending 31 Oct 71,  
RCS CSFOR-65 (R3) (U)

HQ, US Army, Pacific, APO San Francisco 96558 17 FEB 1972

TO: HQDA (DAFD-ZA) WASH DC 20310

This headquarters concurs with the subject ORLL as indorsed with the following comments: Reference Inclosure 4: Aircraft authorizations should be changed to read as follows:

a. Authorizations in Incl 4 pertaining to the 213th ASHC should read:

CH-47C	16
OH-58	<u>2</u>

b. Authorizations for the 25th CAC should read:

<u>U-21A</u>	<u>1</u>
<u>UH-1H</u>	<u>7</u>
<u>OH-58</u>	<u>4</u>

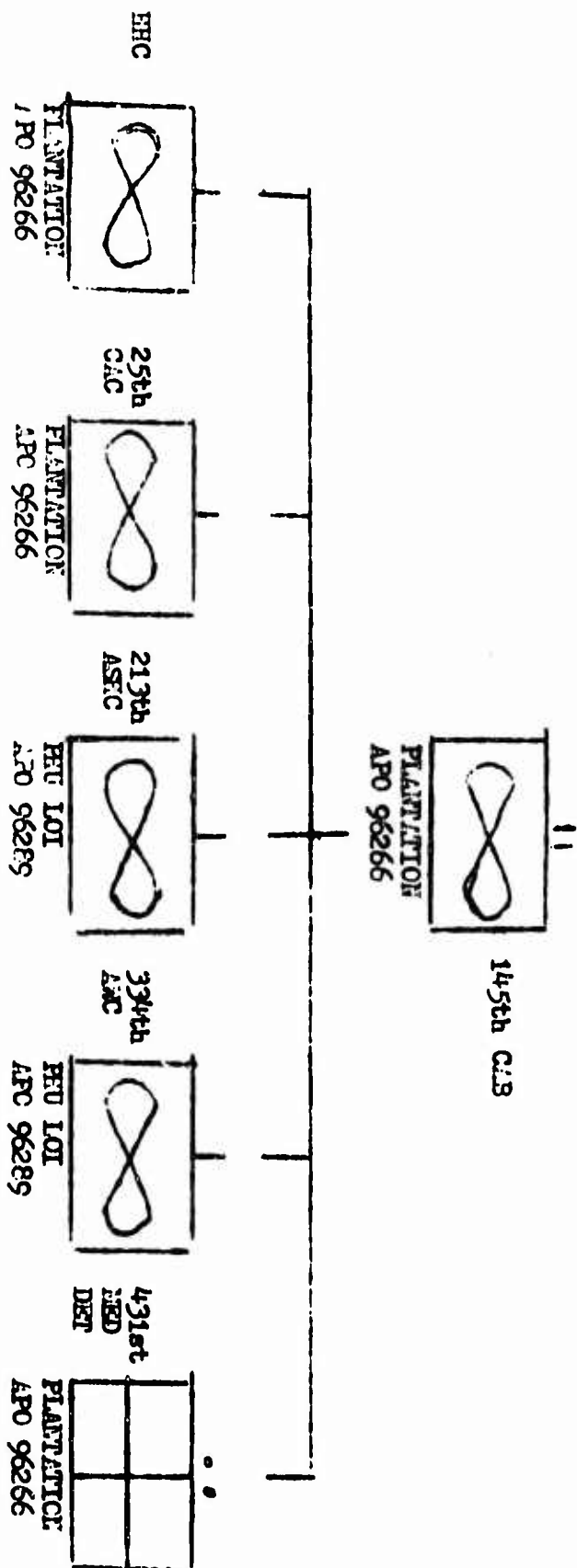
c. Authorizations for the 334th AWC should read:

AH-1G	<u>21</u>
UH-1H	<u>3</u>
OH-58	0

FOR THE COMMANDER IN CHIEF:

*M. L. Mah*  
M. L. MAH  
1LT, AGC  
Asst AG

COMBAND ORGANIZATIONAL CHART  
145th AVIATION BATTALION (COTBAT)



15

Incl 1 to Incl 3

51

UNIT STRENGTH  
HEADQUARTERS, 145TH AVIATION BATTALION (COMBAT)

<u>SUBORDINATE UNIT</u>	<u>OFFICERS</u>		<u>NO</u>		<u>ENLISTED</u>		<u>TOTAL</u>		<u>LOCATION</u>
	<u>AUTH</u>	<u>ASSG</u>	<u>AUTH</u>	<u>ASSG</u>	<u>AUTH</u>	<u>ASSG</u>	<u>AUTH</u>	<u>ASSG</u>	
HHC	20	25	3	4	85	103	108	132	Plantation
213TH ASHC	15	18	26	19	227	220	268	257	Phu Loi
334TH AWC	17	24	39	23	198	175	254	222	Phu Loi
25TH CAC	8	15	18	18	111	115	137	148	Plantation
431ST MED DET	1	1	0	0	7	5	8	6	Plantation
TOTAL 145th CAB	80	83	138	64	838	632	1053	765	

OPERATIONAL STATISTICS  
HEADQUARTERS, 145TH AVIATION BATTALION (COMBAT)

<u>UNIT</u>	<u>SORTIES FLOWN</u>	<u>TROOPS LIFTED</u>	<u>TONS CARGO</u>	<u>ENEMY KIA</u>	<u>STRUCT DEST</u>	<u>A/C COM LOSS</u>	<u>A/C COM DAM</u>	<u>A/C RKT DAM</u>	<u>FLYING HOURS</u>
213th ASHC	10,675	23,585	19,744	0	NA	0	2	0	4,651
334th ABC	1,205	NA	NA	36	23	0	0	0	891
25th GLC	16,447	25,669	NA	0	NA	0	0	0	6,598
F/77th Art'y	2,688	NA	NA	55	53	0	0	0	1,473
242nd ASHC	5,863	12,513	7,052	0	NA	0	0	0	2,717

AIRCRAFT AUTHORIZATION  
HEADQUARTERS, 145TH COMBAT AVIATION BATTALION

54

	<u>AUTHORIZED</u>	<u>ASSIGNED</u>
HHC:		
CH-58	3	2
UH-1H	0	2
213th ASHC:		
CH-47C	16	17
CH-58	1	1
25th CAC:		
UH-1H	11	11
CH-58	8	8
334th AWC		
AH-1G	19	19
UH-1H	4	4
CH-58	0	1

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AVBAV-EC

5 November 1971

SUBJECT: Operational Report - Lessons Learned of 268th Combat Aviation  
Battalion for Period Ending 31 October 1971. RCS CSFOR-65 (R3) (U)

2. Lessons Learned - Commanders Observations, Evaluations and Recommendations.

- a. (U) Personnel: None
- b. (U) Intelligence: None
- c. (U) Operations:

(1) OBSERVATION: Ground units requesting armed helicopters for Tactical Emergencies during periods of reduced visibility, without adequate fire clearance authority.

(2) EVALUATION: The employment of gunship support for tactical emergencies during darkness without clearance to fire is hazardous and offers no immediate relief to ground forces. The only possible contribution made is a "show of force", by orbiting gunships. The command and control aircraft and flare aircraft combined with two gunships orbiting in a relatively small area creates additional safety hazards. On many occasions the ground unit was able to use the darkness to its advantage and break contact prior to the arrival of gunships.

(3) RECOMMENDATIONS: All ground unit commanders and advisors should review the standards required for declaring tactical emergencies. When possible, the use of artillery and mortar fire should be employed. Prior to requesting gunships the exact limits of friendly positions should be determined, and a fire clearance authority should be on station capable of directing aerial fire support.

(4) COMMAND ACTION: Gunships are not committed unless a fire clearance authority is available. All using units have been advised of this requirement and are complying with it.

(5) OBSERVATION: Flight following for single aircraft missions in marginal weather is essential to keep track of the many aircraft flying over a large area.

(6) EVALUATION: With the decrease of American Troops in Vietnam, more aircraft are being assigned single aircraft missions far away from their home base operations. At the same time flight following services are also becoming less efficient or ineffective due to loss of personnel or closing of facilities.

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Incl 4

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DECLASSIFIED AFTER 12 YEARS.  
DOD DIR 5200.10**

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56

AVBAV-EC

5 November 1971

SUBJECT: Operation Report - Lessons Learned of 268th Combat Aviation  
Battalion for Period Ending 31 October 1971. RCS CSFOR-65 (R3)(U)

(7) RECOMMENDATION: That flight following facilities be maintained throughout Vietnam while aviation units continue to perform missions outside radio contact with their operations.

(8) Command Action: None

d. (U) (U) Organization: None

e. (U) Training: None

f. (U) Logistics: None

g. (C) Communications:

(1) OBSERVATION: Shortage of both qualified personnel and serviceable test equipment continue to preclude the satisfactory accomplishment of direct support avionics repair within most units of the battalion.


(2) EVALUATION: The avionics direct support section, TOE to a specific aviation unit, has approximately seven personnel with at least five different MOS's. When one of these repairmen is absent, that portion of the units repair capability ceases. Scheduled calibration, unscheduled maintenance and shortages of TOE test equipment hamper avionics repair within the aviation unit by virtue of being authorized only one each of each item.

(3) RECOMMENDATION: Recommend, wherever possible, individual company direct support avionics repair sections be consolidated into a single facility.

(4) COMMAND ACTION: This battalion has consolidated all direct support avionics personnel and equipment. A vigorous cross training program has been established within the consolidation to ensure that a specific unit has a repair capability if required to leave the consolidation. Additionally, unit integrity is being maintained within the consolidation of prescribed load lists (PLL) and test equipment storage and calibration. The consolidation of all assets within one facility alleviates those problem areas by making more material and manpower available to perform the mission.

h. Material: None

i. Other: None

  
WILLIAM T. KASER  
ITC, TC  
Commanding

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59

AVBACC (10 Nov 71) 1st Ind

19 DEC 1971


SUBJECT: Operational Report - Lessons Learned of 212th Combat Aviation  
Battalion for Period Ending 31 October 1971. RGS CSFOR-65 (R3) (U)

DA, Headquarters, 1st Aviation Brigade, APO San Francisco 96384

TO: Commanding General, United States Army Vietnam, ATTN: AVBACC,  
APO San Francisco 96375

This headquarters has reviewed the Operational Report - Lesson Learned for  
the period ending 31 October 1971 and concurs.

FOR THE COMMANDER:

  
MATTHEW S. LANGER  
LIT, AGC  
Asst Adjutant General

AVHDO-DO (10 Nov 71) 2nd Ind

JAN 13 1972

58

SUBJECT: Operational Report-Lessons Learned of the 212th Combat Aviation  
Battalion for the Period Ending 31 October, RCS CSFOR-65 (R3) (U)

Headquarters, United States Army Vietnam, APO San Francisco 96375

TO: Commander in Chief, United States Army Pacific, ATTN: GPOP-FD,  
APO 96558

This Headquarters has reviewed the Operational Report-Lessons Learned  
for the period ending 31 October 1971 from Headquarters, 212th Combat  
Aviation Battalion and concurs with comments of indorsing headquarters.

FOR THE COMMANDER:

  
L. E. HONSOWETZ  
CPT. AGC.  
Assistant Adjutant General

GPOP-FD (10 Nov 71) 3d Ind (U)  
SUBJECT: Operational Report-Lessons Learned, HQ 212th Combat  
Aviation Battalion, Period Ending 31 October 1971,  
RCS CSFOR-65 (R3) (U)

HQ, US Army, Pacific, APO San Francisco 96558 14 FEB 1972

TO: HQDA (DAFD-ZA) WASH DC 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

*M. L. MAB*  
M. L. MAB  
1LT, AGC  
Asst AG

60

AVCOC (5 Nov 71) 1st Ind

17 DEC 1971


SUBJECT: Operational Report - Lessons Learned of 268th Combat Aviation  
Battalion for Period Ending 31 October 1971. EGS CSFOR-65(R3)(U)

DA, Headquarters, 1st Aviation Brigade, APO San Francisco 96384

TO: Commanding General, United States Army Vietnam, ATTN: AVIAD-DO,  
APO San Francisco 96375

This headquarters has reviewed the Operational Report Lessons Learned  
for the period ending 31 October 1971 and concurs.

FOR THE COMMANDER:

  
MATTHEW SATTER  
1LT, A3C  
Asst. Adjutant General

61  
17 FEB 1972

AVHDO-DO (5 Nov 71) 2nd Ind  
SUBJECT: Operational Report - Lessons Learned of 268th Combat Aviation  
Battalion for Period Ending 31 October 1971, RCS CSFOR-65 (R3)(U)

Headquarters, United States Army Vietnam, APO San Francisco 96375

TO: Commander in Chief, United States Army Pacific, ATTN: GPOP-FD,  
APO 96558

This headquarters has reviewed the Operational Report - Lessons Learned  
for the period ending 31 October 1971 from Headquarters, 268th Combat  
Aviation Battalion and concurs with comments of indorsing headquarters.

FOR THE COMMANDER:

  
F. L. HONSOWETY  
CPT. AGC.  
Assistant Adjutant General

62

GPOP-FD (5 Nov 71) 3d Ind (U)  
SUBJECT: Operational Report-Lessons Learned, HQ 268th Combat  
Aviation Battalion, Period Ending 31 October 1971,  
RCS CSFOR-65 (R3)

HQ, US Army, Pacific, APO San Francisco 96558 8 MAR 1972

TO: HQDA (DAFD-ZA) WASH DC 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

*M. L. Mah*  
M. L. MAH  
LLT, AGC  
Asst AG

68

UNCLASSIFIED

Security Classification

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		2b. GROUP
		4
3. REPORT TITLE		
Operational Report - Lessons Learned, 212th Avn Bn, 223rd Avn Bn, 145th Avn Bn, 268 Avn Bn, Period Ending 31 Oct 71.(U)		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)		
Experiences of unit engaged in counterinsurgency operations		
5. AUTHOR(S) (First name, middle initial, last name)		
CO, 212th Avn Bn, 223rd Avn Bn, 145th Avn Bn, 268th Avn Bn		
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13. ABSTRACT		

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Security Classification